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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,770	11/01/2001	Paul Stanley Addison	740789-052110	7507

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EXAMINER

JUNG, WILLIAM C

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/980,770	Applicant(s) ADDISON ET AL.	
	Examiner William Jung	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 48-51 and 56-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 48-51 and 56-69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 48-51 and 56-69 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 48, 56-59, and 63-66 are rejected under 35 U.S.C. 102(b) as being anticipated by ***Brown et al*** (US 5,571,142).

Brown et al anticipate all claimed features in claims 48, 56-59, and 63-66.

Claims 48, 56-59, and 63-66: Brown et al disclose decomposition of waveform in cardiac signal such as ECG or EKG by connecting electrodes to a patient whose heart is in ventricular fibrillation, obtaining analogue input signal from the electrode to obtain cardiac signal and digitizing the signal to extract key features from the waveform to guiding resuscitating protocol and predicting the outcome of the defibrillation shock and determine the therapeutic application (col. 2, line 24 – col. 3, line 4; col. 6, lines 41-54).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 49, 60, and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Brown et al* as applied to claims 48, 56-59, and 63-66 above, and further in view of *Moore-Ede et al* (US 6,070,098).

Brown et al substantially disclose all claimed features in claims 49, 60, and 67 as described above. However, Brown et al is silent as to the mathematical process (learning vector quantization, LVQ) of the prediction of the defibrillation shock. The process of the math involve in such analysis is well known in the art as demonstrated by Moore-Ede et al's teaching of using LVQ methods to determine the predictability of an event in extracted cardiac signals such as ECG, EKG, or EEG (col. 9, lines 18-65). Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to apply the teachings of Moore-Ede et al to Brown et al to obtain predictability analysis of the digitized cardiac signal using LVQ methods.

6. Claims 50, 61, and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Brown et al* as applied to claims 48, 56-59, and 63-66 above, and further in view of *Ratain et al* (US 2002/0016293 A1).

Brown et al substantially disclose all claimed features in claims 50, 61, and 68 as described above. However, Brown et al is silent as to the mathematical process (Baysian methods) of the prediction of the defibrillation shock. The process of the math involve in such analysis is well known in the art as demonstrated by Ratain et al's teaching of using Baysian methods to determine the predictability of an event in extracted cardiac signals such as ECG, EKG, or EEG (paragraph 0483). Therefore, it would have been obvious to one having an

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ordinary skill in the art at the time the invention was made to apply the teachings of Ratain et al to Brown et al to obtain predictability analysis of the digitized cardiac signal using Bayesian methods.

7. Claims 51, 62, and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Brown et al* as applied to claims 48, 56-59, and 63-66 above, and further in view of *Poon et al* (US 5,938,594).

8. *Brown et al* as applied to claims 48, 56-59, and 63-66 above, and further in view of ***.

Brown et al substantially disclose all claimed features in claims 51, 62, and 69 as described above. However, Brown et al is silent as to the mathematical process (Radial Basis Neural Networks) of the prediction of the defibrillation shock. The process of the math involve in such analysis is well known in the art as demonstrated by Poon et al's teaching of using Radial Basis Neural Networks model to determine the predictability of an event in extracted signals such as ECG, EKG, or EEG (col. 1, line 27 – col. 2, line 38; col.10, lines 25-48). Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to apply the teachings of Poon et al to Brown et al to obtain predictability analysis of the digitized cardiac signal using Radial Basis Neural Networks methods.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William Jung, Ph.D. whose telephone number is 571-272-4739. The examiner can normally be reached on Mon-Fri 8:30 AM to 5 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ACS

January 31, 2006


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